REMARKS

The specification has been amended to make editorial changes to place application in condition for allowance at the time of the next Official Action.

A substitute abstract of the disclosure is submitted to address the objection to the abstract noted in the Official Action.

Claims 1-17 are pending in the application. Claims 1-17 are amended and are believed to address the 35 U.S.C. § 112, first and second paragraphs noted in the Official Action. Specifically, the function recited on page 5, line 28 of the present specification is added to both of independent claims 1 and 12.

Claims 12-14 are rejected as being unpatentable over HENNECHART et al. 4,612,215 in view of SATO et al. 5,384,166. This rejection is respectfully traversed.

As noted above, claim 12 is amended to include the function $E_o\Phi_{zz}=1.3Ca^{2/3}$, z being the axis of travel. Neither HENNECHART et al. nor SATO et al. teach or suggest this function.

The equation $E_o\Phi_{zz}=1.3Ca^{2/3}$ as disclosed on page 5, line 28 of the present specification enables one of ordinary skill in the art to determine the thickness E_o from any function Φ of the second derivative of the curve of the meniscus.

According to fluid mechanics, one of ordinary skill in the art would be able to calculate an expression of the meniscus curve which depends on working conditions in order to obtain a second derivative function Φ.

Working conditions can include; dimensions of the object (fiber, plate, wire, etc.) intended to be coated, dimension of the channel to which the object travels, physics features of the molten metal, and atmospheric pressure, etc.

A meniscus curve, therefore Φ, can be represented by an infinite number of expressions depending on the working conditions. Based on an understanding of fluid mechanics, one of ordinary skill in the art would be able to calculate Φ according to specific working conditions.

The present application provides several examples of Φ according to different working conditions. Using fluid mechanics one of ordinary skill in the art would obtain a meniscus equation. However, the function noted on page 5, line 28 and as recited in claims 1 and 12 of the present application differs from the meniscus equation by providing a new equation: $E_o\Phi_{zz}=1.3Ca^{2/3}$ with which the thickness can be determined from Φ. Based on the statements on page 2, paragraph 3, first three lines of the Official Action, Applicant believes that the claims as presently amended are not broader than the disclosure on page 5, line 28 of the present application and enable a person of

ordinary skill in the art to make and or use the present invention.

In addition, as set forth above regarding claim 12, the cited art does not teach or suggest the feature of claim 12. Since claim 1 also provides this feature, claim 1 and claims which depend therefrom are also believed patentable over the cited prior art.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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APPENDIX:

The Appendix includes the following item(s):

- a new Abstract of the Disclosure

ABSTRACT

A method of producing a metallic coating on an object emerging from a bath of molten metal. The object can for example be a wire or a plate. A magnetic field is created near the point of exit of the object. The object leaves the bath of molten metal via an exit channel containing a meniscus of the bath of molten metal. The thickness of the metallic coating is controlled as a function of the second derivative of the curve of the meniscus and of a capillary number Ca representing the ratio between the viscous forces of the molten metal and the forces of surface tension at the surface of the molten metal.